

**FIT1005**  
**Networks and Data Communications**  
**Tutorial – Week 13**

**Objective of this tutorial:**

The purpose of this tutorial is to make student revise and reflect on some important concepts related to ATM (Asynchronous Transfer Mode) networks and packet switching.

**How to participate in the tutorial:**

Form groups of four students in each and discuss the answers for the following revision and reflective questions with the group members. After spending about 15 minutes for each question, discussing with group members, discuss your solutions with the tutor and other groups. The tutor will provide feedback on your solutions.

**Revision questions:**

1. One of the two approaches used for ATM cell transmission is known as cell-based physical layer.
  - a. What is the significance of achieving synchronisation of cells in cell-based physical layer?
  - b. In cell-based physical layer, synchronisation is achieved on the basis of header error control (HEC). Elaborate on this.
2. The second approach used for ATM cell transmission is known as SDH-based physical layer.
  - a. How is the cell synchronisation achieved in SDH-based physical layer?
  - b. Some specific connections can be circuit-switched using SDH channel. Elaborate on this.
3. In packet switching, what is the significance of packet size and transmission time?

**Reflective questions:**

1.
  - a. Asynchronous transfer mode (ATM) is in some ways similar to packet switching using X.25. Reflect on this.
  - b. Reflect on the differences between packet switching in X.25 and ATM transmission?